





Trabuco Canyon Water District

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2002

Water Quality Report

Trabuco Canyon Water District

The 2002 Water Quality Report

Drinking Water Quality

Since 1991, California water utilities have been providing an annual Water Quality Report to their customers. This year's report covers calendar year 2001 water quality testing, and has been prepared in compliance with new regulations called for in the 1996 reauthorization of the Safe Drinking Water Act. The reauthorization charged the United States Environmental Protection Agency (EPA) with updating and strengthening the tap water regulatory program and changed the report's due date to July 1.

EPA and the California Department of Health Services (DHS) are the agencies responsible for establishing drinking water quality standards. To ensure that your tap water is safe to drink, EPA and DHS prescribe



If you have questions, please contact us for answers...

For information about this report, or your water quality in general, please contact Kris Hanberg at (949) 858-0277. For more information about the health effects of the listed contaminants in the following tables, call the Environmental Protection Agency hotline at (800) 426-4791.

The Trabuco Canyon Water District (TCWD) Board of Directors meets the third Wednesday of each month at 7:00 p.m. at the District's Administration Building located at 32003 Dove Canyon, Trabuco Canyon, California 92679. The public is encouraged to attend.

regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. The federal Food and Drug Administration (FDA) also sets regulations for bottled water.

Unregulated contaminant monitoring helps EPA determine where certain contaminants occur and whether it needs to establish regulations for those contaminants.

This information is important. Have someone translate it for you.

これは重要な情報ですので、翻訳を依頼してください。

Esta información es importante. Por favor pídale a alguien que se la traduzca.

此乃重要資料，必須請人替您翻譯。

معلومات هامة جداً. يرجى طلب شخص لترجمتها لك.

이 자료는 매우 중요한 것입니다. 그러므로 영어를 할 수 있는 사람한테 번역해 줄 것을 부탁하십시오.

Bản báo cáo này có những tin tức quan trọng về nước uống của quý vị. Hay dịch ra hoặc nói chuyện với những ai thông hiểu.

What You Need to Know, And How it May Affect You

Sources of Supply

Your drinking water is a blend of surface water imported by the Metropolitan Water District of Southern California, Lake Matthews, the Santiago Reservoir, and groundwater that is pumped from three wells located within TCWD's boundaries. Metropolitan's imported water sources are the Colorado River and the State Water Project, which draws water from the San Francisco-San Joaquin Bay Delta. Your groundwater comes from the Lang Well, the Rose Well, and the U.S. Well.

Government Regulations of Potential Contaminants

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. As water travels over the surface of the land or through the layers of the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of human or animal activity. For most people, the presence of contaminants does not necessarily mean water may be a health risk.

Contaminants that may be present in source water include:

- ♦ Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- ♦ Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.
- ♦ Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production or mining activities.
- ♦ Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- ♦ Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gasoline stations, urban storm water runoff and septic systems.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can cause diarrhea, fever, and other gastrointestinal

symptoms. The organism comes from animal and/or human wastes and may be in surface water. The Metropolitan Water District of Southern California, which did not detect it in the water, tested your surface water for *Cryptosporidium* in 2001. If it ever is detected, *Cryptosporidium* is eliminated by an effective treatment combination including sedimentation, filtration and disinfection.

Immuno-compromised people

Some people may be more vulnerable to constituents in the water than the general population. Immuno-compromised people, such

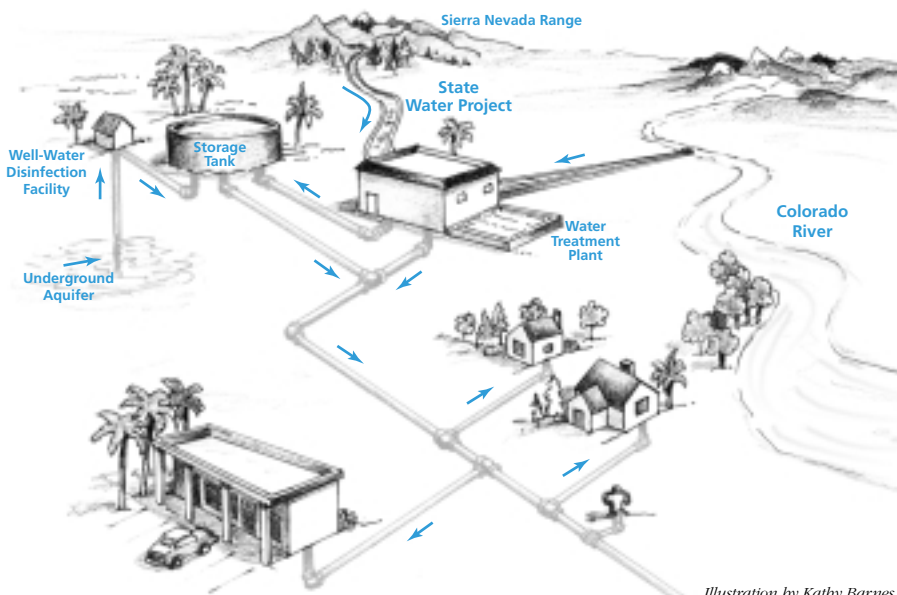


Illustration by Kathy Barnes

as those with cancer who are undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk of infections. These people should seek advice about drinking water from their healthcare providers.

The EPA and the Federal Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from EPA's safe drinking water hotline at (800) 426-4791 between 9 a.m. and 5 p.m. Eastern Time (6 a.m. to 2 p.m. in California).

Tribalomethanes and Disinfection

Trihalomethanes (THMs) are chemical byproducts of disinfecting drinking water. THMs are a group of four chemicals that are formed when chlorine reacts with naturally occurring organic and inorganic matter in water. The trihalomethanes are chloroform, bromodichloromethane, dibromochloromethane, and bromoform.

Chlorine disinfection has almost completely eliminated from our lives the risks of microbial waterborne diseases such as typhoid fever, cholera, and dysentery. However, the health benefit of chlorination has introduced some possible risks from THMs. Some scientific studies have linked THMs to increased risk of cancer. Other studies have linked THMs to reproductive problems, including miscarriage. A California study released in 1998 found an increase in miscarriage rate for women who drank 5 or more glasses of cold water containing more than 75 parts-per-billion total THMs. State and federal officials have cautioned that this study is not definitive and further investigation is now underway.

The maximum amount of total THMs allowed in drinking water is regulated by the U.S. EPA, which set a maximum annual average limit in drinking water of 100 parts per billion in 1979. Effective in January 2002, the Stage 1 Disinfectants/Disinfection

Byproducts Rule revises the total THM maximum annual average level at 80 parts per billion. Your drinking water complies with the Stage 1 Disinfectants / Disinfection Byproducts Rule (see the average THM value in the accompanying table). EPA is currently crafting a Stage 2 regulation that will further reduce allowable levels in drinking water.

Not Detected Contaminants

The Trabuco Canyon Water District (TCWD) vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the standards required by the state and federal regulatory agencies. In some cases, TCWD goes beyond what is required to monitor for additional contaminants that have known health risks. The contaminants listed below, specifically including Chromium and MTBE, were NOT DETECTED in TCWD'S water during 2001.

1,1-Dichloroethane	Butyl Benzylphthalate	Methoxychlor
1,1,1-Trichloroethane	Cadmium	Molinate (Ordram)
1,1,2-Trichloroethane	Chlordane	Methyl Paraaxon
1,1,2,2-Tetrachloroethane	Chlorpropham	Methyl-tert-butyl ether [MTBE]
1,2-Dichlorobenzene (o-DCB)	Chlorothalonil	Nickel
1,2-Dichloroethane	Chromium	Nitrogen Phosphorous Pesticides
1,2-Dichloromethane	Cis-1,2-Dichloroethene	PCBs (Polychlorinated biphenyls)
1,2-Dichloropropane	Copper	Pebulate
1,2,4-Trichlorobenzene	Diazinon	Pentachlorophenol
1,2,4-Trimethylbenzene	Dichlorofluoromethane	Phenanthrene
1,3 Dichloropropane	Dichlorvos	Selenium
1,4-Dichlorobenzene (p-DCB)	Diphenamid	Simazine
2,4,5-TP	Disulfoton	Styrene
2-Chlorobiphenyl	Endrin	Thallium
Acenaphthalene	EPTC	Toluene
Alachlor	Ethoprop	Total Coliform Bacteria
Anthracene	Ethylbenzene	Toxaphene
Antimony	Fecal coliform and <i>E.coli</i>	Trans-1,2-Dichloroethene
Arsenic	Fluridone	Trichloroethene
Atrazine	Heptachlor	Trichlorofluoromethane
Benzene	Heptachlor epoxide	Vinyl Chloride
Benzo(a)pyrene (PAH)	Hexachlorobenzene	Xylenes
Beryllium	Hexachlorocyclopentadiene	
Bromacil	Lead	
	Mercury (inorganic)	

Definitions

Public Health Goal (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. Public health goals are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG)

The level of contaminant in drinking water below which there is no known or expected risk to health. Maximum contaminant level goals are set by the EPA.

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the public health goals and maximum contaminant level goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

Primary Drinking Water Standard (PDWS)

MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Treatment Technique

A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Variance

State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Measurements

Water is sampled and tested throughout the year. Contaminants are measured in parts per million (ppm), parts per billion (ppb), parts per trillion (ppt), and even parts per quadrillion (ppq).

The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Trabuco Canyon Water District Groundwater Quality

Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Contaminant
Radiologicals							
Alpha Radiation (pCi/L)	15	0.5	<1	ND - 1.0	No	2001	Erosion of Natural Deposits
Inorganic Chemicals							
Nitrate (ppm as NO ₃)	45	45	2.1	2.0 - 2.2	No	2001	Fertilizers, Septic Tanks
Fluoride (ppm)	2	1	1.0	0.8 - 1.2	No	2001	Erosion of Natural Deposits
Secondary Standards*							
Chloride (ppm)	500*	n/a	28	23 - 30	No	2001	Erosion of Natural Deposits
Specific Conductance (µmho/cm)	1,600*	n/a	575	511 - 608	No	2001	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	190	155 - 210	No	2001	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	408	360 - 435	No	2001	Erosion of Natural Deposits
Unregulated Contaminants Requiring Monitoring							
Calcium (ppm)	Not Regulated	n/a	93	80 - 100	n/a	2001	Erosion of natural deposits
Magnesium (ppm)	Not Regulated	n/a	22	20 - 23	n/a	2001	Erosion of natural deposits
Potassium (ppm)	Not Regulated	n/a	1.3	1.2 - 1.3	n/a	2001	Erosion of natural deposits
pH (units)	Not Regulated	n/a	7.3	7.3 - 7.4	n/a	2001	Erosion of natural deposits
Sodium (ppm)	Not Regulated	n/a	23	22 - 24	n/a	2001	Erosion of natural deposits
Total Alkalinity (ppm)	Not Regulated	n/a	149	136 - 160	n/a	2001	Erosion of natural deposits
Total Hardness CaCO ₃ (ppm)	Not Regulated	n/a	324	283 - 346	n/a	2001	Erosion of natural deposits
Total Hardness CaCO ₃ (grains/gal)	Not Regulated	n/a	19	17 - 20	n/a	2001	Erosion of natural deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = pico curies per liter; ntu = nephelometric turbidity units; ND = not detected; n/a = not applicable; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; < = less than. *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Trabuco Canyon Water District Dimension Water Treatment Plant

Chemical	MCL	PHG, or (MCLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals						
Alpha Radiation (pCi/L)	15	n/a	3.4	ND - 4.5	No	Erosion of natural deposits
Combined Radium (pCi/L)	5	n/a	0.6	0.5 - 0.8	No	Erosion of natural deposits
Uranium (pCi/L)	20	0.5	1.2	ND - 3.6	No	Erosion of natural deposits
Inorganic Chemicals						
Barium	1	2	0.1	0.1	No	Erosion of natural deposits
Aluminum (ppm)	1 / 0.2*	0.6	0.27	0.27	No	Water treatment chemical
Fluoride (ppm)	2	1	0.41	0.41	No	Erosion of natural deposits
Nitrate (ppm as NO ₃)	45	45	1.4	1.4	No	Fertilizers, Septic Tanks
Secondary Standards*						
Chloride (ppm)	500*	n/a	74	74	No	Erosion of natural deposits
Color (units)	15*	n/a	1	1	No	Naturally occurring organic material
Odor-Threshold (units)	5*	n/a	1	1	No	Naturally occurring organic material
Specific Conductance (µmho/cm)	1600*	n/a	790	790	No	Erosion of natural deposits
Sulfate (ppm)	500*	n/a	200	200	No	Erosion of natural deposits
Total Dissolved Solids (ppm)	1000*	n/a	580	580	No	Erosion of natural deposits
Unregulated Contaminants Requiring Monitoring						
Calcium (ppm)	Not Regulated	n/a	82	82	n/a	Erosion of natural deposits
Magnesium (ppm)	Not Regulated	n/a	28	28	n/a	Erosion of natural deposits
Potassium (ppm)	Not Regulated	n/a	4	4	n/a	Erosion of natural deposits
pH (units)	Not Regulated	n/a	7.6	7.6	n/a	Erosion of natural deposits
Sodium (ppm)	Not Regulated	n/a	83	83	n/a	Erosion of natural deposits
Total Alkalinity (ppm)	Not Regulated	n/a	160	160	n/a	Erosion of natural deposits
Total Hardness CaCO ₃ (ppm)	Not Regulated	n/a	317	317	n/a	Erosion of natural deposits
Total Hardness CaCO ₃ (grains/gal)	Not Regulated	n/a	18	18	n/a	Erosion of natural deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = pico curies per liter; ntu = nephelometric turbidity units; ND = not detected; < = less than; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; n/a = not applicable. *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Turbidity - combined filter effluent	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement	5 NTU	0.14	No	Soil run-off
2) Percentage of samples less than 0.5 NTU	100%	100	No	Soil run-off

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Trabuco Canyon Water District's treated water is a good indicator of effective filtration. Filtration is called a treatment technique. A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Trabuco Canyon Water District Distribution System Water Quality

	MCL	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	100	36	ND - 74	No	Byproducts of chlorine disinfection
Color (color units)	15*	1	1	No	Erosion of natural deposits
Odor (threshold odor number)	3*	1	1	No	Erosion of natural deposits
Turbidity (ntu)	5*	0.24	0.17 - 0.41	No	Erosion of natural deposits

Thirteen locations are tested quarterly for total trihalomethanes; twelve locations are tested monthly for color, odor, and turbidity. ntu = nephelometric turbidity unit

*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Contaminant
Copper (ppm)	1.3	2	0.035	0	No	Corrosion of household plumbing

Every three years, at least 30 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2001. Lead was not detected in any home. Copper, although detected, did not exceed the action level in any sample. The regulatory action level for copper is the concentration of copper which, if exceeded in more than ten percent of the homes tested, triggers treatment or other requirements which a water system must follow. Trabuco Canyon Water District complied with the copper action level.

Metropolitan Water District of Southern California Treated Surface Water

Chemical	MCL	PHG, or (MCLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals - Tested in 1999						
Alpha Radiation (pCi/L)	15	n/a	3.6	1.2 - 6.0	No	Erosion of natural deposits
Beta Radiation (pCi/L)	50	n/a	6.2	5.2 - 7.8	No	Decay of man-made or natural deposits
Combined Radium	5	n/a	0.6	ND - 1.5	No	Erosion of natural deposits
Uranium (pCi/L)	20	0.5	2.6	ND - 3.8	No	Erosion of natural deposits
Organic Chemicals - Tested in 2001						
MTBE (ppb)	13	13	<3	ND - 0.7	No	Gasoline additive
Toluene (ppb)	150	150	<0.5	ND - 4.0	No	Industrial solvent
Inorganic Chemicals - Tested in 2001						
Aluminum (ppm)	1	0.6	0.141	0.096 - 0.200	No	Residue from water treatment process
Arsenic (ppb)	50	n/a	<2	ND - 2.4	No	Erosion of natural deposits
Fluoride (ppm)	2	1	0.22	0.19 - 0.24	No	Erosion of natural deposits
Nitrate as N (ppm)	10	10	<0.45	ND - 0.56	No	Agriculture runoff and sewage
Secondary Standards* - Tested in 2001						
Aluminum (ppm)	0.2*	n/a	0.141	0.096 - 0.200	No	Residue from water treatment process
Chloride (ppm)	500*	n/a	78	72 - 83	No	Runoff or leaching from natural deposits
Color (color units)	15*	n/a	1	1 - 2	No	Runoff or leaching from natural deposits
MTBE (ppb)	13*	n/a	<3	ND - 0.7	No	Gasoline additive
Specific Conductance (µmho/cm)	1,600*	n/a	832	779 - 884	No	Substances that form ions in water
Sulfate (ppm)	500*	n/a	177	155 - 194	No	Runoff or leaching of natural deposits
Total Dissolved Solids (ppm)	1,000*	n/a	498	464 - 530	No	Runoff or leaching of natural deposits
Turbidity (ntu)	5*	n/a	0.06	0.05 - 0.07	No	Runoff or leaching of natural deposits
Unregulated Chemicals - Tested in 2001						
Alkalinity (ppm)	Not Regulated	n/a	113	107 - 122	n/a	Runoff or leaching from natural deposits
Boron (ppb)	Not Regulated	n/a	130	120 - 130	n/a	Runoff or leaching from natural deposits
Calcium (ppm)	Not Regulated	n/a	56	53 - 61	n/a	Runoff or leaching from natural deposits
Magnesium (ppm)	Not Regulated	n/a	24	21 - 25	n/a	Runoff or leaching from natural deposits
Perchlorate (ppb)	Not Regulated	n/a	4	ND - 5	n/a	Rocket fuel discharged to the Colorado River
Potassium (ppm)	Not Regulated	n/a	3.9	3.5 - 4.2	n/a	Runoff or leaching from natural deposits
Sodium (ppm)	Not Regulated	n/a	78	74 - 83	n/a	Runoff or leaching from natural deposits
Hardness (ppm)	Not Regulated	n/a	237	219 - 255	n/a	Runoff or leaching of natural deposits
Hardness (grains/gal)	Not Regulated	n/a	14	13 - 15	n/a	Runoff or leaching of natural deposits
Vanadium (ppb)	Not Regulated	n/a	3	3	n/a	Runoff or leaching of natural deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = pico curies per liter; ntu = nephelometric turbidity units; ND = not detected; < = less than; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; n/a = not applicable. * Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color)

Turbidity - combined filter effluent	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement	0.5 NTU	0.2	No	Soil run-off
2) Percentage of samples less than 0.5 NTU	95%	100	No	Soil run-off

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a treatment technique.(TT). A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Information Collection Rule Disinfection By-Products in Metropolitan Water District Finished Water Data Collected August 1997 - December 1998

Chemical	Average Amount (ppb)	Range of Detections (ppb)	Typical Source of Contaminant
Disinfection By-Products			
Haloacetic Acids	17	9.5 - 24	Formed by the reaction with chlorine disinfectant
Haloacetonitriles	7.6	5.1 - 11	Formed by the reaction with chlorine disinfectant
Haloketones	1.7	0.7 - 2.7	Formed by the reaction with chlorine disinfectant
Chloral Hydrate	3.8	1.5 - 6.1	Formed by the reaction with chlorine disinfectant
Total Organic Halogen	113	78 - 155	Formed by the reaction with chlorine disinfectant
Cyanogen Chloride	1.7	0.5 - 2.3	Formed by the reaction with chlorine disinfectant
Total Chlorine Residual *	2.5 ppm	2.1 - 2.9 ppm	Disinfectant residual

The Information Collection Rule (ICR) is a multi-year national monitoring program administered by the U.S. Environmental Protection Agency. The primary purpose of the ICR is to gather nationwide occurrence data on chemicals which may be formed during drinking water disinfection. The results of the ICR will assist the EPA in regulating many of these disinfection by-products over the next 5 years.

ppb = parts-per-billion, ppm = parts-per-million, ND = not detected. * - Chlorine residuals are for the treatment plant effluent during 2001.